

10/645,253

	ENTRY	SESSION
FULL ESTIMATED COST	0.21	0.21

FILE 'USPATFULL' ENTERED AT 09:44:10 ON 07 FEB 2006  
CA INDEXING COPYRIGHT (C) 2006 AMERICAN CHEMICAL SOCIETY (ACS)

FILE COVERS 1971 TO PATENT PUBLICATION DATE: 2 Feb 2006 (20060202/PD)  
FILE LAST UPDATED: 2 Feb 2006 (20060202/ED)  
HIGHEST GRANTED PATENT NUMBER: US6993790  
HIGHEST APPLICATION PUBLICATION NUMBER: US2006026727  
CA INDEXING IS CURRENT THROUGH 2 Feb 2006 (20060202/UPCA)  
ISSUE CLASS FIELDS (/INCL) CURRENT THROUGH: 2 Feb 2006 (20060202/PD)  
REVISED CLASS FIELDS (/NCL) LAST RELOADED: Dec 2005  
USPTO MANUAL OF CLASSIFICATIONS THESAURUS ISSUE DATE: Dec 2005

=> s avobenzene? or parsal 1789

439 AVOBENZENE?  
2 PARSAL  
5697 1789  
0 PARSAL 1789  
(PARSAL(W)1789)

L1 439 AVOBENZENE? OR PARSAL 1789

=> s avobenzene? or parsol 1789

439 AVOBENZENE?  
1636 PARSOL  
5697 1789  
954 PARSOL 1789  
(PARSOL(W)1789)

L2 1274 AVOBENZENE? OR PARSOL 1789

=> s l2/clm

87 AVOBENZENE?/CLM  
28 PARSOL/CLM  
223 1789/CLM  
22 PARSOL 1789/CLM  
((PARSOL(W)1789)/CLM)

L3 103 (AVOBENZENE?/CLM OR PARSOL 1789/CLM)

=> s zinc oxide?

250447 ZINC  
685252 OXIDE?  
64772 ZINC OXIDE?  
(ZINC(W)OXIDE?)

L4

=> s l4/clm

50013 ZINC/CLM  
197817 OXIDE?/CLM  
10758 (ZINC OXIDE?/CLM)  
((ZINC(W)OXIDE?)/CLM)

L5

=> s phenylbenzimidazole sulfonic acid?

1933 PHENYLBENZIMIDAZOLE  
111185 SULFONIC  
862757 ACID?

L6

338 PHENYLBENZIMIDAZOLE SULFONIC ACID?  
(PHENYLBENZIMIDAZOLE(W)SULFONIC(W)ACID?)

=> s l6/clm

250 PHENYLBENZIMIDAZOLE/CLM  
17988 SULFONIC/CLM

5993789

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381593 ACID?/CLM

L7 69 (PHENYLBENZIMIDAZOLE SULFONIC ACID?/CLM)  
( (PHENYLBENZIMIDAZOLE (W) SULFONIC (W) ACID?) /CLM)

=> s 13 and 16 and 17

L8 26 L3 AND L6 AND L7

=> s sunscreen? or uv sunblock?

8768 SUNSCREEN?

176726 UV

733 SUNBLOCK?

12 UV SUNBLOCK?

(UV (W) SUNBLOCK?)

L9 8768 SUNSCREEN? OR UV SUNBLOCK?

=> s 19/clm

2440 SUNSCREEN?/CLM

15950 UV/CLM

103 SUNBLOCK?/CLM

0 UV SUNBLOCK?/CLM

((UV (W) SUNBLOCK?) /CLM)

L10 2440 (SUNSCREEN?/CLM OR UV SUNBLOCK?/CLM)

=> s 110 and 18

L11 25 L10 AND L8

=> s emulsion?

L12 222169 EMULSION?

=> s 112 and 111

L13 19 L12 AND L11

=>

10/645,253

Connecting via Winsock to STN

Welcome to STN International! Enter x:x

LOGINID:ssspta1503sxd

PASSWORD:

TERMINAL (ENTER 1, 2, 3, OR ?):2

\* \* \* \* \* Welcome to STN International \* \* \* \* \*

NEWS 1 Web Page URLs for STN Seminar Schedule - N. America  
NEWS 2 "Ask CAS" for self-help around the clock  
NEWS 3 DEC 05 CASREACT(R) - Over 10 million reactions available  
NEWS 4 DEC 14 2006 MeSH terms loaded in MEDLINE/LMEDLINE  
NEWS 5 DEC 14 2006 MeSH terms loaded for MEDLINE file segment of TOXCENTER  
NEWS 6 DEC 14 CA/CAPplus to be enhanced with updated IPC codes  
NEWS 7 DEC 21 IPC search and display fields enhanced in CA/CAPplus with the  
IPC reform  
NEWS 8 DEC 23 New IPC8 SEARCH, DISPLAY, and SELECT fields in USPATFULL/  
USPAT2  
NEWS 9 JAN 13 IPC 8 searching in IFIPAT, IFIUDB, and IFICDB  
NEWS 10 JAN 13 New IPC 8 SEARCH, DISPLAY, and SELECT enhancements added to  
INPADOC  
NEWS 11 JAN 17 Pre-1988 INPI data added to MARPAT  
NEWS 12 JAN 17 IPC 8 in the WPI family of databases including WPIFV  
NEWS 13 JAN 30 Saved answer limit increased  
NEWS 14 JAN 31 Monthly current-awareness alert (SDI) frequency  
added to TULSA

NEWS EXPRESS JANUARY 03 CURRENT VERSION FOR WINDOWS IS V8.01,  
CURRENT MACINTOSH VERSION IS V6.0c(ENG) AND V6.0Jc(JP),  
AND CURRENT DISCOVER FILE IS DATED 19 DECEMBER 2005.  
V8.0 USERS CAN OBTAIN THE UPGRADE TO V8.01 AT  
<http://download.cas.org/express/v8.0-Discover/>

NEWS HOURS STN Operating Hours Plus Help Desk Availability  
NEWS INTER General Internet Information  
NEWS LOGIN Welcome Banner and News Items  
NEWS PHONE Direct Dial and Telecommunication Network Access to STN  
NEWS WWW CAS World Wide Web Site (general information)

Enter NEWS followed by the item number or name to see news on that  
specific topic.

All use of STN is subject to the provisions of the STN Customer  
agreement. Please note that this agreement limits use to scientific  
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FILE 'HOME' ENTERED AT 09:43:59 ON 07 FEB 2006

=> file uspatfull

COST IN U.S. DOLLARS

SINCE FILE

TOTAL

10/645,253

Connecting via Winsock to STN

Welcome to STN International! Enter x:x

LOGINID:sssptal503sxd

PASSWORD:

TERMINAL (ENTER 1, 2, 3, OR ?):2

\* \* \* \* \* Welcome to STN International \* \* \* \* \*

NEWS 1 Web Page URLs for STN Seminar Schedule - N. America  
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NEWS 4 DEC 14 2006 MeSH terms loaded in MEDLINE/LMEDLINE  
NEWS 5 DEC 14 2006 MeSH terms loaded for MEDLINE file segment of TOXCENTER  
NEWS 6 DEC 14 CA/CAPLUS to be enhanced with updated IPC codes  
NEWS 7 DEC 21 IPC search and display fields enhanced in CA/CAPLUS with the  
IPC reform  
NEWS 8 DEC 23 New IPC8 SEARCH, DISPLAY, and SELECT fields in USPATFULL/  
USPAT2  
NEWS 9 JAN 13 IPC 8 searching in IFIPAT, IFIUDB, and IFICDB  
NEWS 10 JAN 13 New IPC 8 SEARCH, DISPLAY, and SELECT enhancements added to  
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NEWS 11 JAN 17 Pre-1988 INPI data added to MARPAT  
NEWS 12 JAN 17 IPC 8 in the WPI family of databases including WPIFV  
NEWS 13 JAN 30 Saved answer limit increased  
NEWS 14 JAN 31 Monthly current-awareness alert (SDI) frequency  
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NEWS HOURS STN Operating Hours Plus Help Desk Availability  
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result in loss of user privileges and other penalties.

\* \* \* \* \* STN Columbus \* \* \* \* \*

FILE 'HOME' ENTERED AT 09:28:07 ON 07 FEB 2006

=> file uspatfull

COST IN U.S. DOLLARS

SINCE FILE

TOTAL

10/645,253

	ENTRY	SESSION
FULL ESTIMATED COST	0.21	0.21

FILE 'USPATFULL' ENTERED AT 09:28:27 ON 07 FEB 2006  
CA INDEXING COPYRIGHT (C) 2006 AMERICAN CHEMICAL SOCIETY (ACS)

FILE COVERS 1971 TO PATENT PUBLICATION DATE: 2 Feb 2006 (20060202/PD)  
FILE LAST UPDATED: 2 Feb 2006 (20060202/ED)  
HIGHEST GRANTED PATENT NUMBER: US6993790  
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REVISED CLASS FIELDS (/NCL) LAST RELOADED: Dec 2005  
USPTO MANUAL OF CLASSIFICATIONS THESAURUS ISSUE DATE: Dec 2005

=> s avobenzzone? or Parsol 1789

439 AVOBENZZONE?  
1636 PARSOL  
5697 1789  
954 PARSOL 1789  
(PARSOL(W)1789)

L1 1274 AVOBENZZONE? OR PARSOL 1789

=> s zinc oxide?

250447 ZINC  
685252 OXIDE?  
64772 ZINC OXIDE?  
(ZINC(W)OXIDE?)

L2

=> s l1 and l2

L3 811 L1 AND L2

=> s sunscreen? or uv or sunblock?

8768 SUNSCREEN?  
176726 UV  
733 SUNBLOCK?

L4 181493 SUNSCREEN? OR UV OR SUNBLOCK?

=> s l3 and l4

L5 804 L3 AND L4

=> s phenylbenzimidazole? sulfonic acid?

2010 PHENYLBENZIMIDAZOLE?  
111185 SULFONIC  
862757 ACID?

L6 338 PHENYLBENZIMIDAZOLE? SULFONIC ACID?  
(PHENYLBENZIMIDAZOLE? (W) SULFONIC (W) ACID?)

=> s l5 and l6

L7 127 L5 AND L6

=> s l4/ti

416 SUNSCREEN?/TI  
1984 UV/TI  
16 SUNBLOCK?/TI

L8 2380 (SUNSCREEN?/TI OR UV/TI OR SUNBLOCK?/TI)

=> s l8 and l7

L9 52 L8 AND L7

=> s human? or skin?

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515861 HUMAN?  
244157 SKIN?  
L10 638504 HUMAN? OR SKIN?

=> s l10 and l9  
L11 52 L10 AND L9

=> s emulsion?  
L12 222169 EMULSION?

=> s l11 and l12  
L13 52 L11 AND L12

=> d his

(FILE 'HOME' ENTERED AT 09:28:07 ON 07 FEB 2006)

FILE 'USPATFULL' ENTERED AT 09:28:27 ON 07 FEB 2006  
L1 1274 S AVOBENZONE? OR PARSOL 1789  
L2 64772 S ZINC OXIDE?  
L3 811 S L1 AND L2  
L4 181493 S SUNSCREEN? OR UV OR SUNBLOCK?  
L5 804 S L3 AND L4  
L6 338 S PHENYLBENZIMIDAZOLE? SULFONIC ACID?  
L7 127 S L5 AND L6  
L8 2380 S L4/TI  
L9 52 S L8 AND L7  
L10 638504 S HUMAN? OR SKIN?  
L11 52 S L10 AND L9  
L12 222169 S EMULSION?  
L13 52 S L11 AND L12

=> s l1/clm  
87 AVOBENZONE?/CLM  
28 PARSOL/CLM  
223 1789/CLM  
22 PARSOL 1789/CLM  
((PARSOL(W)1789)/CLM)  
L14 103 (AVOBENZONE?/CLM OR PARSOL 1789/CLM)

=> s l14 and l13  
L15 13 L14 AND L13

=> d l15 1-13 ibib abs

L15 ANSWER 1 OF 13 USPATFULL on STN  
ACCESSION NUMBER: 2005:305299 USPATFULL  
TITLE: Cleansing foaming **sunscreen** lotion  
INVENTOR(S): Knopf, Michael A., Randolph, NJ, UNITED STATES  
Polk, Michele, Flanders, NJ, UNITED STATES  
Lucia, Frank A. III, Wantage, NJ, UNITED STATES  
Wohland, William C., Succasunna, NJ, UNITED STATES  
Macchio, Ralph, Sparta, NJ, UNITED STATES

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 2005265936	A1	20051201
APPLICATION INFO.:	US 2005-102579	A1	20050408 (11)
RELATED APPLN. INFO.:	Continuation-in-part of Ser. No. US 2004-710052, filed on 15 Jun 2004, PENDING		

NUMBER	DATE
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PRIORITY INFORMATION: US 2004-521565P 20040525 (60)  
DOCUMENT TYPE: Utility  
FILE SEGMENT: APPLICATION  
LEGAL REPRESENTATIVE: SCHWEGMAN, LUNDBERG, WOESSNER & KLUTH, 1600 TCF TOWER,  
121 SOUTH EIGHT STREET, MINNEAPOLIS, MN, 55402, US  
NUMBER OF CLAIMS: 24  
EXEMPLARY CLAIM: 1  
LINE COUNT: 579

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB The invention described herein includes a **sunscreen** formulation comprising: a **sunscreen**, a structurant and an **emulsion** comprising a homogenized mixture of wax and alcohol components, at least one of which is a surfactant, wherein the formulation comprises a stable lamellar or spherulite phase.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L15 ANSWER 2 OF 13 USPATFULL on STN  
ACCESSION NUMBER: 2005:74630 USPATFULL  
TITLE: **Sunscreen** compositions and methods of use thereof  
INVENTOR(S): Maniscalco, Thomas J., Danbury, CT, UNITED STATES

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 2005063924	A1	20050324
APPLICATION INFO.:	US 2004-805757	A1	20040322 (10)
RELATED APPLN. INFO.:	Continuation of Ser. No. US 2003-444332, filed on 22 May 2003, ABANDONED		

	NUMBER	DATE
PRIORITY INFORMATION:	US 2002-383077P	20020523 (60)
DOCUMENT TYPE:	Utility	
FILE SEGMENT:	APPLICATION	
LEGAL REPRESENTATIVE:	MINTZ, LEVIN, COHN, FERRIS, GLOVSKY, AND POPEO, P.C., ONE FINANCIAL CENTER, BOSTON, MA, 02111	
NUMBER OF CLAIMS:	20	
EXEMPLARY CLAIM:	1	
NUMBER OF DRAWINGS:	1 Drawing Page(s)	
LINE COUNT:	676	

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB Disclosed herein are novel methods for reducing or preventing the harmful effects of solar radiation on **skin**. Also disclosed are novel **sunscreen** compositions comprising 3-[2-(4-diethylaminophenyl)-2-oxoethyl]thiazolium salt for reducing or preventing the harmful effects of solar radiation on **skin**. Agents that provide **UV-A** and **UV-B** filters are also included. The invention further discloses additional **sunscreen** active agents, emollients, humectants, dry-feel modifiers, waterproofing agents, insect repellants, antimicrobial preservatives, antioxidants, chelating agents, fragrances and moisturizers, suitable carriers for topical application and **emulsions**.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L15 ANSWER 3 OF 13 USPATFULL on STN  
ACCESSION NUMBER: 2005:16380 USPATFULL  
TITLE: **Sunscreen** composition  
INVENTOR(S): Dueva-Koganov, Olga V., White Plains, NY, UNITED STATES  
SaNogueira, James P., Suffern, NY, UNITED STATES

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PATENT ASSIGNEE(S): Playtex Products, Inc. (U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 2005013781	A1	20050120
APPLICATION INFO.:	US 2004-856737	A1	20040528 (10)

	NUMBER	DATE
PRIORITY INFORMATION:	US 2003-474362P	20030529 (60)
DOCUMENT TYPE:	Utility	
FILE SEGMENT:	APPLICATION	
LEGAL REPRESENTATIVE:	Charles N. J. Ruggiero, Esq., Ohlandt, Greeley, Ruggiero & Perle, L.L.P., 10th Floor, One Landmark Square, Stamford, CT, 06901-2682	
NUMBER OF CLAIMS:	95	
EXEMPLARY CLAIM:	1	
NUMBER OF DRAWINGS:	7 Drawing Page(s)	
LINE COUNT:	1831	

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB There is provided a composition comprising one or more photoactive compounds and one or more optimization agents. Surprisingly, the composition requires a small amount of optimization agent to efficiently optimize the polarity, critical wavelength, SPF, PFA, Star Rating, photostability, or any combinations thereof, of the composition. Subsequently, an efficient **sunscreen** composition is achieved.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L15 ANSWER 4 OF 13 USPATFULL on STN

ACCESSION NUMBER: 2004:291731 USPATFULL  
TITLE: **Sunscreen** wipes having high **sunscreen** formulation transfer rate  
INVENTOR(S): Krzysik, Duane G., Appleton, WI, UNITED STATES  
PATENT ASSIGNEE(S): Kimberly-Clark Worldwide, Inc. (U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 2004228811	A1	20041118
APPLICATION INFO.:	US 2003-436774	A1	20030513 (10)
DOCUMENT TYPE:	Utility		
FILE SEGMENT:	APPLICATION		
LEGAL REPRESENTATIVE:	SENNIGER POWERS LEAVITT AND ROEDEL, ONE METROPOLITAN SQUARE, 16TH FLOOR, ST LOUIS, MO, 63102		
NUMBER OF CLAIMS:	111		
EXEMPLARY CLAIM:	1		
LINE COUNT:	1634		

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB **Sunscreen** wipes comprising a thixotropic, quick-breaking **sunscreen** formulation are disclosed. The **sunscreen** formulation comprises water, at least one **sunscreen** active, Pemulen TR-2, a stabilizing emulsifier, and a neutralizing agent. By formulating the **sunscreen** formulation such that it has specific high shear and low shear viscosities at a pH range of from about 5 to about 6, the transfer rate of the **sunscreen** formulation to the **skin** during use is significantly increased as compared to conventional **sunscreen** wipes.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L15 ANSWER 5 OF 13 USPATFULL on STN

ACCESSION NUMBER: 2004:164854 USPATFULL



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TITLE: **Sunscreen** composition and methods for  
manufacturing and using a **sunscreen**  
composition  
INVENTOR(S): Roszell, James A., Henderson, NV, UNITED STATES

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 2004126339	A1	20040701
APPLICATION INFO.:	US 2002-335192	A1	20021231 (10)
DOCUMENT TYPE:	Utility		
FILE SEGMENT:	APPLICATION		
LEGAL REPRESENTATIVE:	MERCHANT & GOULD PC, P.O. BOX 2903, MINNEAPOLIS, MN, 55402-0903		
NUMBER OF CLAIMS:	26		
EXEMPLARY CLAIM:	1		
LINE COUNT:	1084		

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB A **sunscreen** composition is provided. The **sunscreen** composition includes a mixture of a **skin** bonding polymer composition comprising hydrophobic polymer/hydrophilic polymer adduct, at least one **sunscreen** active ingredient in an amount effective to provide the **sunscreen** with an SPF value of at least 4, and water in an amount effective to provide the composition with a texture suitable for application to **skin**. The hydrophobic polymer/hydrophilic polymer adduct can be prepared by melt processing a hydrophobic polymer composition that includes repeating pyrrolidone/alkylene groups wherein the alkylene groups contain at least 10 carbon atoms, and a hydrophilic polymer composition including repeating carboxylic groups and/or repeating hydroxyl groups. Methods for manufacturing and using a **sunscreen** are provided.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L15 ANSWER 6 OF 13 USPATFULL on STN  
ACCESSION NUMBER: 2004:164852 USPATFULL  
TITLE: **Sunscreen** compositions  
INVENTOR(S): Singleton, Laura C., Los Angeles, CA, UNITED STATES

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 2004126337	A1	20040701
APPLICATION INFO.:	US 2002-331297	A1	20021230 (10)
DOCUMENT TYPE:	Utility		
FILE SEGMENT:	APPLICATION		
LEGAL REPRESENTATIVE:	PHILIP S. JOHNSON, JOHNSON & JOHNSON, ONE JOHNSON & JOHNSON PLAZA, NEW BRUNSWICK, NJ, 08933-7003		
NUMBER OF CLAIMS:	20		
EXEMPLARY CLAIM:	1		
LINE COUNT:	461		

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB The present invention relates to a composition containing (i) a lipophilic **sunscreen**, (iii) a copolymer of sodium acryloyldimethyltaurate and one or more acryls, and (iii) an oil-absorbant.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L15 ANSWER 7 OF 13 USPATFULL on STN  
ACCESSION NUMBER: 2004:158109 USPATFULL  
TITLE: **Sunscreen** compositions and methods of use  
thereof  
INVENTOR(S): Gall, Martin, Morristown, NJ, UNITED STATES

Pagan, Miguel, Howells, NY, UNITED STATES

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 2004120905	A1	20040624
APPLICATION INFO.:	US 2003-444356	A1	20030522 (10)

	NUMBER	DATE
PRIORITY INFORMATION:	US 2002-383284P	20020523 (60)
DOCUMENT TYPE:	Utility	
FILE SEGMENT:	APPLICATION	
LEGAL REPRESENTATIVE:	MINTZ, LEVIN, COHN, FERRIS, GLOVSKY, AND POPEO, P.C., ONE FINANCIAL CENTER, BOSTON, MA, 02111	
NUMBER OF CLAIMS:	20	
EXEMPLARY CLAIM:	1	
NUMBER OF DRAWINGS:	1 Drawing Page(s)	
LINE COUNT:	749	

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB Disclosed herein are novel methods for reducing or preventing the harmful effects of solar radiation on **skin**. Also disclosed are novel **sunscreen** compositions comprising thaizolium, thiadiazolium or triazolium compounds or derivatives and analogs thereof for reducing or preventing the harmful effects of solar radiation on **skin**. **Sunscreen** active agents that provide **UV**-A and **UV**-B filters are also included. The invention further discloses additional **sunscreen** active agents, emollients, humectants, dry-feel modifiers, waterproofing agents, insect repellants, antimicrobial preservatives, antioxidants, chelating agents, fragrances and moisturizers, suitable carriers for topical application and **emulsions**.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L15 ANSWER 8 OF 13 USPATFULL on STN

ACCESSION NUMBER: 2003:276359 USPATFULL  
 TITLE: Methods of making and selling a **sunscreen** composition  
 INVENTOR(S): Bonda, Craig A., Winfield, IL, UNITED STATES  
 PATENT ASSIGNEE(S): The C.P. Hall Company (U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 2003194384	A1	20031016
	US 6770270	B2	20040803
APPLICATION INFO.:	US 2002-105990	A1	20020325 (10)
RELATED APPLN. INFO.:	Continuation-in-part of Ser. No. US 2002-92132, filed on 5 Mar 2002, GRANTED, Pat. No. US 6485713 Continuation-in-part of Ser. No. US 2002-92131, filed on 5 Mar 2002, GRANTED, Pat. No. US 6537529		
DOCUMENT TYPE:	Utility		
FILE SEGMENT:	APPLICATION		
LEGAL REPRESENTATIVE:	MARSHALL, GERSTEIN & BORUN, 6300 SEARS TOWER, 233 SOUTH WACKER, CHICAGO, IL, 60606-6357		
NUMBER OF CLAIMS:	20		
EXEMPLARY CLAIM:	1		
NUMBER OF DRAWINGS:	4 Drawing Page(s)		
LINE COUNT:	1635		

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB A method of preparing a **sunscreen** including a solvent system and a filter system, the method including the step of controlling the polarity of the solvent system to control the rate of photodecay of the

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filter system, as well as **sunscreen** compositions and compounds for producing **sunscreen** compositions, are disclosed. A method of selling a cosmetically-acceptable **sunscreen** composition is disclosed.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L15 ANSWER 9 OF 13 USPATFULL on STN

ACCESSION NUMBER: 2003:81440 USPATFULL

TITLE: **Sunscreen** compositions and methods and materials for producing the same

INVENTOR(S): Bonda, Craig A., Winfield, IL, United States

PATENT ASSIGNEE(S): The C.P. Hall Company, Chicago, IL, United States (U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 6537529	B1	20030325
APPLICATION INFO.:	US 2002-92131		20020305 (10)
DOCUMENT TYPE:	Utility		
FILE SEGMENT:	GRANTED		
PRIMARY EXAMINER:	Dodson, Shelley A.		
LEGAL REPRESENTATIVE:	Marshall, Gerstein & Borun		
NUMBER OF CLAIMS:	14		
EXEMPLARY CLAIM:	1		
NUMBER OF DRAWINGS:	6 Drawing Figure(s); 6 Drawing Page(s)		
LINE COUNT:	1423		

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB A method of preparing a **sunscreen** including a solvent system and a filter system, the method including the step of controlling the polarity of the solvent system to control the rate of photodecay of the filter system, as well as **sunscreen** compositions and compounds for producing **sunscreen** compositions, are disclosed.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L15 ANSWER 10 OF 13 USPATFULL on STN

ACCESSION NUMBER: 2002:310621 USPATFULL

TITLE: **Sunscreen** compositions and methods and materials for producing the same

INVENTOR(S): Bonda, Craig A., Winfield, IL, United States

Shah, Urvil B., Mokena, IL, United States

Mcmillin, Robert J., Oak Lawn, IL, United States

Roth, Magda M., Homewood, IL, United States

PATENT ASSIGNEE(S): The C. P. Hall Company, Chicago, IL, United States (U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 6485713	B1	20021126
APPLICATION INFO.:	US 2002-92132		20020305 (10)
DOCUMENT TYPE:	Utility		
FILE SEGMENT:	GRANTED		
PRIMARY EXAMINER:	Dodson, Shelley A.		
LEGAL REPRESENTATIVE:	Marshall, Gerstein & Borun		
NUMBER OF CLAIMS:	69		
EXEMPLARY CLAIM:	1		
NUMBER OF DRAWINGS:	6 Drawing Figure(s); 3 Drawing Page(s)		
LINE COUNT:	1768		

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB A method of preparing a **sunscreen** including a solvent system and a filter system, the method including the step of controlling the

polarity of the solvent system to control the rate of photodecay of the filter system, as well as **sunscreen** compositions and compounds for producing **sunscreen** compositions, are disclosed.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L15 ANSWER 11 OF 13 USPATFULL on STN

ACCESSION NUMBER: 2001:237461 USPATFULL  
 TITLE: Delivery systems for active ingredients including **sunscreen** actives and methods of making same  
 INVENTOR(S): Deblasi, Douglas S., Fairfield, NJ, United States  
 Sui, Manshi, Hillsborough, NJ, United States  
 Pe, Roy, Kendall Park, NJ, United States  
 PATENT ASSIGNEE(S): Shamrock Technologies (U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 2001055573	A1	20011227
APPLICATION INFO.:	US 2001-875614	A1	20010606 (9)
RELATED APPLN. INFO.:	Continuation of Ser. No. US 1999-374862, filed on 16 Aug 1999, GRANTED, Pat. No. US 6280710		
DOCUMENT TYPE:	Utility		
FILE SEGMENT:	APPLICATION		
LEGAL REPRESENTATIVE:	BAKER BOTTS LLP, 44TH FLOOR, 30 ROCKEFELLER PLAZA, NEW YORK, NY, 10112-4498		
NUMBER OF CLAIMS:	36		
EXEMPLARY CLAIM:	1		
LINE COUNT:	1223		

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB The present invention provides methods of making delivery systems for active ingredients including hydrogenated jojoba and **sunscreen** actives. The recrystallization process of the present invention produces small particle size alloys from molten mixtures and recrystallized small particle size dispersions from high temperature solvent solutions. The invention further provides delivery systems for active ingredients such as **sunscreen** actives.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L15 ANSWER 12 OF 13 USPATFULL on STN

ACCESSION NUMBER: 2001:141860 USPATFULL  
 TITLE: Delivery systems for active ingredients including **sunscreen** actives and methods of making same  
 INVENTOR(S): Deblasi, Douglas S., Fairfield, NJ, United States  
 Sui, Manshi, Hillsborough, NJ, United States  
 Pe, Roy, Kendall Park, NJ, United States  
 PATENT ASSIGNEE(S): Shamrock Technologies, Inc., Newark, NJ, United States (U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 6280710	B1	20010828
APPLICATION INFO.:	US 1999-374862		19990816 (9)
RELATED APPLN. INFO.:	Continuation of Ser. No. US 1997-843032, filed on 11 Apr 1997, now patented, Pat. No. US 6036945		
DOCUMENT TYPE:	Utility		
FILE SEGMENT:	GRANTED		
PRIMARY EXAMINER:	Dodson, Shelley A.		
NUMBER OF CLAIMS:	26		
EXEMPLARY CLAIM:	1		
LINE COUNT:	1127		

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB The present invention provides methods of making delivery systems for active ingredients including hydrogenated jojoba and **sunscreen** actives. The recrystallization process of the present invention produces small particle size alloys from molten mixtures and recrystallized small particle size dispersions from high temperature solvent solutions. The invention further provides delivery systems for active ingredients such as **sunscreen** actives.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L15 ANSWER 13 OF 13 USPATFULL on STN

ACCESSION NUMBER: 2000:31019 USPATFULL

TITLE: Delivery systems for active ingredients including **sunscreen** actives and methods of making same

INVENTOR(S): Deblasi, Douglas S., Fairfield, NJ, United States  
Sui, Manshi, Hillsborough, NJ, United States  
Pe, Roy, Kendall Park, NJ, United States

PATENT ASSIGNEE(S): Shamrock Technologies, Inc., Newark, NJ, United States  
(U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 6036945		20000314
APPLICATION INFO.:	US 1997-843032		19970411 (8)
DOCUMENT TYPE:	Utility		
FILE SEGMENT:	Granted		
PRIMARY EXAMINER:	Dees, Jose' G.		
ASSISTANT EXAMINER:	Shelborne, Kathryne E.		
LEGAL REPRESENTATIVE:	Baker & Botts, LLP		
NUMBER OF CLAIMS:	42		
EXEMPLARY CLAIM:	1		
LINE COUNT:	1425		

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB The present invention provides methods of making delivery systems for active ingredients including hydrogenated jojoba and **sunscreen** actives. The recrystallization process of the present invention produces small particle size alloys from molten mixtures and recrystallized small particle size dispersions from high temperature solvent solutions. The invention further provides delivery systems for active ingredients such as **sunscreen** actives.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

10/645,253

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(FILE 'HOME' ENTERED AT 09:28:07 ON 07 FEB 2006)

FILE 'USPATFULL' ENTERED AT 09:28:27 ON 07 FEB 2006

L1 1274 S AVOBENZONE? OR PARSOL 1789  
L2 64772 S ZINC OXIDE?  
L3 811 S L1 AND L2  
L4 181493 S SUNSCREEN? OR UV OR SUNBLOCK?  
L5 804 S L3 AND L4  
L6 338 S PHENYLBENZIMIDAZOLE? SULFONIC ACID?  
L7 127 S L5 AND L6  
L8 2380 S L4/TI  
L9 52 S L8 AND L7  
L10 638504 S HUMAN? OR SKIN?  
L11 52 S L10 AND L9  
L12 222169 S EMULSION?  
L13 52 S L11 AND L12  
L14 103 S L1/CLM  
L15 13 S L14 AND L13  
L16 1 S US6036945/PN  
L17 1 S L16 AND L15

=> s stabili? or photodegration?

902742 STABILI?

22 PHOTODEGRATION?

L18 902744 STABILI? OR PHOTODEGRATION?

=> s l13 and l18

L19 48 L13 AND L18

=> s l6(p)l18

L20 7 L6(P)L18

=> d l20 and l19

L19 IS NOT VALID HERE

For an explanation, enter "HELP DISPLAY".

=> s l20 and l19

L21 2 L20 AND L19

=> d 1-2 ibib abs

L21 ANSWER 1 OF 2 USPATFULL on STN

ACCESSION NUMBER: 2002:224254 USPATFULL

TITLE: **Sunscreen** compositions containing a  
dibenzoylmethane derivative

INVENTOR(S): Cole, Curtis, Ringoes, NJ, United States  
Natter, Florence, Hillsborough, NJ, United States

PATENT ASSIGNEE(S): Johnson & Johnson Consumer Companies, Inc., Skillman,  
NJ, United States (U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 6444195	B1	20020903
APPLICATION INFO.:	US 2001-883416		20010618 (9)
DOCUMENT TYPE:	Utility		
FILE SEGMENT:	GRANTED		
PRIMARY EXAMINER:	Dodson, Shelley A.		
LEGAL REPRESENTATIVE:	Harrihan, Erin M.		
NUMBER OF CLAIMS:	21		

10/645,253

EXEMPLARY CLAIM: 1  
NUMBER OF DRAWINGS: 0 Drawing Figure(s); 0 Drawing Page(s)  
LINE COUNT: 485  
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB The present invention relates to a method of photostabilizing a composition comprising (a) one or more dibenzoylmethane derivative UV-A absorbing agent(s); (b) one or more benzophenone derivative(s); and (c) a diester or polyester of a naphthalene dicarboxylic acid and a method of protecting mammalian **skin** or hair from UV radiation comprising topically applying to the **skin** or hair such a composition.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L21 ANSWER 2 OF 2 USPATFULL on STN

ACCESSION NUMBER: 1999:155173 USPATFULL  
TITLE: Photostable **sunscreen** compositions containing dibenzoylmethane derivative, E.G., parsol® 1789, and diesters or polyesters of naphthalene dicarboxylic acid photostabilizers and enhancers of the sun protection factor (SPF)

INVENTOR(S): Bonda, Craig A., Wheaton, IL, United States  
Marinelli, Peter J., Bartlett, IL, United States  
Hessefort, Yin Z., Naperville, IL, United States  
Trivedi, Jagdish, Woodridge, IL, United States  
Wentworth, Gary, Chicago, IL, United States

PATENT ASSIGNEE(S): The C.P. Hall Company, Chicago, IL, United States (U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 5993789		19991130
APPLICATION INFO.:	US 1999-276051		19990325 (9)
DOCUMENT TYPE:	Utility		
FILE SEGMENT:	Granted		
PRIMARY EXAMINER:	Dodson, Shelley A.		
LEGAL REPRESENTATIVE:	Marshall, O'Toole, Gerstein, Murray & Borun		
NUMBER OF CLAIMS:	20		
EXEMPLARY CLAIM:	1		
NUMBER OF DRAWINGS:	9 Drawing Figure(s); 9 Drawing Page(s)		
LINE COUNT:	532		

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB A **sunscreen** composition containing a UV-A dibenzoylmethane derivative, such as 4-(1,1-dimethylethyl)-4'-methoxydibenzoylmethane (PARSOL® 1789), and a **stabilizer** for the dibenzoylmethane derivative having formula (I) or (II), or mixtures: ##STR1## wherein each R.sup.1, same or different, is an alkyl group having 1 to 22 carbon atoms, a diol having the structure HO--R.sup.2 --OH, or a polyglycol having the structure HO--R.sup.3 --(--O--R.sup.2 --).sub.m --OH, wherein R.sup.2 and R.sup.3, same or different, are each an alkylene group, straight chain or branched, having 1 to 6 carbon atoms, and wherein m and n are each 1 to about 100, or a mixture thereof. These diesters and polyesters of formula (I) or (II) are quite effective in **stabilizing** the dibenzoylmethane derivative UV-A filter compounds making them more effective, and effective for longer periods of time.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

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L22 0 US59937789/PN

10/645,253

=> s us5993789/pn  
L23 1 US5993789/PN

=> d his

(FILE 'HOME' ENTERED AT 09:28:07 ON 07 FEB 2006)

FILE 'USPATFULL' ENTERED AT 09:28:27 ON 07 FEB 2006

L1 1274 S AVOBENZONE? OR PARSOL 1789  
L2 64772 S ZINC OXIDE?  
L3 811 S L1 AND L2  
L4 181493 S SUNSCREEN? OR UV OR SUNBLOCK?  
L5 804 S L3 AND L4  
L6 338 S PHENYLBENZIMIDAZOLE? SULFONIC ACID?  
L7 127 S L5 AND L6  
L8 2380 S L4/TI  
L9 52 S L8 AND L7  
L10 638504 S HUMAN? OR SKIN?  
L11 52 S L10 AND L9  
L12 222169 S EMULSION?  
L13 52 S L11 AND L12  
L14 103 S L1/CLM  
L15 13 S L14 AND L13  
L16 1 S US6036945/PN  
L17 1 S L16 AND L15  
L18 902744 S STABILI? OR PHOTODEGRATION?  
L19 48 S L13 AND L18  
L20 7 S L6(P)L18  
L21 2 S L20 AND L19  
L22 0 S US59937789/PN  
L23 1 S US5993789/PN

=> s l23 and l21  
L24 1 L23 AND L21

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L24 ANSWER 1 OF 1 USPATFULL on STN

TI Photostable **sunscreens** compositions containing dibenzoylmethane derivative, E.G., parsol® 1789, and diesters or polyesters of naphthalene dicarboxylic acid photostabilizers and enhancers of the.

PI US 5993789 19991130 <--

AB A **sunscreens** composition containing a UV-A dibenzoylmethane derivative, such as 4-(1,1-dimethylethyl)-4'-methoxydibenzoylmethane (PARSOL® 1789), and a **stabilizer** for the dibenzoylmethane derivative having formula (I) or (II), or mixtures: ##STR1## wherein each R.sup.1, same or different, is an. . . to about 100, or a mixture thereof. These diesters and polyesters of formula (I) or (II) are quite effective in **stabilizing** the dibenzoylmethane derivative UV-A filter compounds making them more effective, and effective for longer periods of time.

SUMM The present invention is directed to a photostable, broad spectrum (UV-A/UV-B), stable **sunscreens** composition for topical application to **human skin** to protect the **skin** against UV radiation damage. More particularly, the present invention is directed to the use of diesters and/or polyesters of a naphthalene dicarboxylic acid that are surprisingly effective in photostabilizing dibenzoylmethane derivatives, particularly 4-(1,1-dimethylethyl)-4'-methoxydibenzoylmethane (**avobenzene** or PARSOL® 1789). The diesters and polyesters of naphthalene



dicarboxylic acid photostabilize the PARSOL® 1789 and improve the Sun Protection Factor (SPF) to provide a more effective **sunscreen** composition compared to currently marketed **sunscreens** having the same or higher levels of **UV** absorbing active ingredients. This improved performance means the composition maintains its level of effectiveness over a longer period of time and, therefore, need not be applied to the **skin** as frequently. Other **sunscreen** agents can be included, such as octyl methoxycinnamate (**UV-B**), benzophenone 3 (**UV-A/UV-B**) (a/k/a oxybenzone), octyl salicylate (**UV-B**), octyl triazone (**UV-B**), **phenylbenzimidazole sulfonic acid** (**UV-B**), methylbenzylidene camphor (**UV-A/UV-B**), or octocrylene (**UV-A/UV-B**) to increase the SPF to a value of at least 2, preferably at least 8, while maintaining the **stabilization** of the dibenzoylmethane derivative **UV-A** **sunscreen** agent, e.g., PARSOL 1789.

SUMM It is well known that ultraviolet light having a wavelength between about 280 nm or 290 nm and 320 nm (**UV-B**) is harmful to **human skin**, causing burns that are detrimental to the development of a good sun tan. **UV-A** radiation, while producing tanning of the **skin**, also can cause damage, particularly to very lightly colored, sensitive **skin**, leading to reduction of **skin** elasticity and wrinkles.

SUMM Therefore, a **sunscreen** composition should include both **UV-A** and **UV-B** filters to prevent most of the sunlight within the full range of about 280 nm to about 400 nm from damaging **human skin**.

SUMM The **UV-B** filters that are most widely used commercially in **sunscreen** compositions are paramethoxycinnamic acid esters, such as 2-ethylhexyl paramethoxycinnamate, commonly referred to as octyl methoxycinnamate or PARSOL® MCX, having an. . .

SUMM The **UV-A** filters most commonly used in commercial **sunscreen** compositions are the dibenzoylmethane derivatives, particularly 4-(1,1-dimethylethyl)-4'-methoxydibenzoylmethane (PARSOL® 1789), and 4-isopropyl dibenzoylmethane (EUSOLEX 8020). Other dibenzoylmethane derivatives described as **UV-A** filters are disclosed in U.S. Pat. Nos. 4,489,057; 4,387,089 and 4,562,067 and 5,670,140, hereby incorporated by reference. It is also well known that the above described and most commonly used **UV-A** filters, particularly the dibenzoylmethane derivatives, such as PARSOL® 1789, suffer in photochemical **stability** when used alone or in combination with the above-described most commercially used **UV-B** filters. Accordingly, when used alone or when combined with a **UV-B** filter, such as 2-ethylhexyl paramethoxycinnamate (PARSOL® MCX), oxybenzone and/or octyl salicylate, the PARSOL® 1789 becomes less photochemically stable necessitating repeated, frequent coatings over the **skin** for sufficient **UV** radiation protection.

SUMM . . . that by including a diester and/or polyester of one or more naphthalene dicarboxylic acids of formula (I), into a cosmetic **sunscreen** formulation containing a **UV-A** dibenzoylmethane derivative, particularly PARSOL® 1789, and/or 4-isopropyl dibenzoylmethane (EUSOLEX 8020), the dibenzoylmethane derivative is photochemically **stabilized** so that the dibenzoylmethane derivative-containing **sunscreen** composition with or without additional **sunscreen** agents, such as oxybenzone and/or octyl methoxycinnamate (ESCALOL 567), is more effective for filtering out **UV-A** radiation; the composition filters more **UV-A** radiation for longer periods of time; and, therefore, the **sunscreen** formulation need not be applied to the **skin** as frequently while maintaining effective

- skin** protection against **UV-A** radiation.
- SUMM . . . of the present invention, it has been found that the diesters and polyesters of naphthalene dicarboxylic acids can also absorb **UV** light in the most damaging range of about 280-300 nm, especially over the 280 and 295 nm wavelength absorbance peaks shown in FIG. 9, to further boost the SPF of the **sunscreen** compositions.
- SUMM By the addition of **UV-B** filter compounds, such as octyl methoxycinnamate, octyl salicylate, and/or oxybenzone, the cosmetic **sunscreen** formulation can maintain surprisingly effective **skin** protection against **UV** radiation both in the **UV-A** and **UV-B** range, with or without common **sunscreen** additives, such as octocrylene, and/or titanium dioxide. The composition reaches a surprisingly high SPF without solid additives, such as titanium . . . dioxide, thereby providing an exceptionally elegant feel that can be applied easily in a continuous coating for complete coverage and **sunscreen** protection. The ratio of **UV-A** to **UV-B** filter compounds is in the range of about 0.1:1 to about 3:1, preferably about 0.1:1 to about 0.5:1, most preferably. . . preferred composition, and higher than SPF 20 in another preferred composition, with the addition of surprisingly low amounts of other **UV-B** and **UV-A** filters to the **PARSOL 1789**, and without solid blocking compounds, such as TiO.sub.2.
- SUMM In brief, the present invention is directed to **sunscreen** compositions containing a dibenzoylmethane derivative **UV-A** filter compound, such as 4-(1,1-dimethylethyl)-4'-methoxydibenzoylmethane (**PARSOL® 1789**), and a diester and/or polyester of a naphthalene dicarboxylic acid that photostabilizes the.
- SUMM Surprisingly, it has been found that these diesters and polyesters of naphthalene dicarboxylic acids are quite effective in **stabilizing** the dibenzoylmethane derivative **UV-A** filter compounds making them more effective; effective for longer periods of time; and, therefore, the **sunscreen** composition need not be reapplied as frequently to maintain effective **UV** radiation **skin** protection.
- SUMM Accordingly, one aspect of the present invention is to provide a stable **sunscreen** composition that includes a diester or polyester of one or more naphthalene dicarboxylic acids as a photostabilizer compound, said naphthalene dicarboxylic acid diester/polyester photostabilizers having formula (I) or (II), being capable of **stabilizing** a dibenzoylmethane derivative **UV-A** filter, particularly **PARSOL® 1789**.
- SUMM Another aspect of the present invention is to provide photochemical **stabilizer** compounds for dibenzoylmethane derivatives, particularly **PARSOL® 1789**, and methods of manufacturing the **stabilizer** compounds, capable of **stabilizing** the dibenzoylmethane derivatives, and capable of increasing the **sunscreen** protection factor (SPF) achievable for **sunscreen** compositions containing the dibenzoylmethane derivatives to a SPF of at least 2, particularly higher than SPF 8.
- SUMM Another aspect of the present invention is to provide a stable **sunscreen** composition that has a SPF of at least 12, preferably at least about 20, without a **sunscreen** composition additive selected from the group consisting of octocrylene or camphor derivatives such as methylbenzilidene camphor or substituted dialkylbenzalmalonates or substituted dialkylmalonates, or solid blocking agents such as TiO.sub.2 or **zinc oxide**. It should be understood however, that these **sunscreen** composition additives can be included in the composition of the present invention without detrimental effect.

- SUMM Another aspect of the present invention is to provide an improved, stable **sunscreen** composition containing a diester and/or polyester of a naphthalene dicarboxylic acid that increases the effectiveness of dibenzoylmethane derivative **sunscreen** compounds, particularly 4-(1,1-dimethylethyl)-4'-methoxydibenzoylmethane (PARSOL® 1789), in SPF and in duration.
- SUMM Another aspect of the present invention is to provide a stable, broad spectrum **sunscreen** composition that has a SPF of at least 12 and provides substantial protection against the full range of solar UV radiation (280-400 nm), including about 4-15% by weight of an ester and/or polyester of naphthalene dicarboxylic acid, and contains less than 7% and preferably less than 6.1% of **sunscreen** composition additives selected from the group oxybenzone and **avobenzone** (PARSOL 1789).
- SUMM Still another aspect of the present invention is to provide a **sunscreen** composition containing a combination of acrylate/C.sub.10-30 alkyl acrylate block copolymers, e.g., PEMULEN TR-1 and PEMULEN TR-2, in a weight ratio. . . .
- SUMM . . . ratio of 1:1-2:1 TR-1:TR-2 emulsify the compositions of the present invention such that the composition can be spread over the **skin** without gas bubbles or voids while providing a non-greasy after feel, and providing sufficient viscosity, and complete emulsification of the oil phase of the composition so that complete coverage of the **skin** is achieved, without interfering with the high SPF provided by the **sunscreen** and **stabilizer** compounds of the composition.
- SUMM Still another aspect of the present invention is to provide a moisturizing **sunscreen** composition that provides an SPF of at least 20, including about 4-15% by weight of an ester and/or polyester of. . . weight PARSOL® 1789 and less than a total of 7% by weight, preferably about 6% by weight or less of **sunscreen** composition additives selected from the group consisting of octyl methoxycinnamate, oxybenzone, octyl triazone, and octyl salicylate, preferably 2% by weight. . . .
- DRWD FIG. 2 is a graph showing the photostability (photoinstability) or UV absorbance capability, of a **sunscreen** composition containing 1% by weight **avobenzone** when subjected to ultraviolet light of varying wavelengths;
- DRWD FIG. 3 is a graph showing photostability, or UV absorbance capability, of a **sunscreen** compositing containing 1% by weight **avobenzone** when **stabilized** with 4% by weight of one of the naphthalene dicarboxylic acid polyesters of the present invention;
- DRWD FIG. 4 is a graph showing photostability, or UV absorbance capability, of a **sunscreen** composition containing 1% by weight **avobenzone** when **stabilized** with 8% by weight of one of the naphthalene dicarboxylic acid polyesters of the present invention;
- DRWD FIG. 5 is a graph showing the photostability of a **sunscreen** composition containing 3% by weight oxybenzone/1% by weight **avobenzone**, without a photostabilizer of the present invention;
- DRWD FIG. 6 is a graph showing the photostability of a **sunscreen** composition containing 3% by weight oxybenzone/1% by weight **avobenzone**, and 8% by weight of one of the naphthalene dicarboxylic acid polyester photostabilizers of the present invention;
- DRWD FIG. 7 is a graph showing the photostability of a **sunscreen** composition containing 1% by weight **avobenzone** and 4% by weight of an octocrylene photostabilizer;
- DRWD FIG. 8 is a graph showing the photostability of a **sunscreen** composition containing 1% by weight **avobenzone** and 4% by weight of an oligomer (MW=.about.1500) of a naphthalene dicarboxylic acid ester of the present invention; and
- DRWD FIG. 9 is a graph showing the UV absorbance of the naphthalic dicarboxylic acid of Example 1 at 17.5 ppm in tetrahydroforan (THF).

DETD The **sunscreen** compositions of the present invention include about 0.5% to about 5%, preferably about 0.5% to about 3% of a dibenzoylmethane derivative **UV-A** filter compound, such as 4-(1,1-dimethylethyl)-4'-methoxy-dibenzoylmethane (PARSOL® 1789) and about 1% to about 10% by weight of a diester and/or polyester. . .

DETD

Ingredient (Standard)	Formula A			Function
	Formula B			
	Formula C			
hexyldecyl benzoate	7.50%	7.50%	7.50%	emollient, solvent
& butyloctyl benzoate				
isopropyl myristate	5.00%	5.00%	1.00%	co-solvent
avobenzene	1.00%	1.00%	1.00%	UV-A sunscreen
myristyl myristate	4.00%	0.00%	0.00%	bodying agent
polyester of	0.00%	4.00%	8.00%	photostabilizer
2,6-naphthalene dicarboxylic acid				
sorbitan oleate	0.20%	0.20%	0.20%	particle size reducer
dimethicone	0.10%	0.10%	0.10%	lubricant
copolyol				
carbomer	0.20%	0.20%	0.20%	thickener, stabilizer
acrylates/C10-30				
	0.25%	0.25%	0.25%	emulsifier
alkyl acrylates crosspolymer				
deionized water	Q.S.	Q.S.	Q.S.	solvent, carrier
disodium EDTA	0.05%	0.05%	0.05%	chelator
hydroxypropyl-	0.20%	0.20%	0.20%	film. . .

DETD The photostability of the PARSOL® 1789 was determined by spreading measured amounts of the **emulsions** on 5 cm square slides of Vitro-skin, then irradiating the slides with a solar simulator. Absorbance measurements in the **UV-A** range (315-380 nm) were taken by a Labsphere **UV** Transmittance Analyzer before and after irradiation and the results compared.

DETD After irradiation with 5 MED (minimal erythermal dose), the loss of **UV-A** absorbance by the PARSOL® 1789 was considerably lower in the formulations containing the PARSOL® 1789 in combination with 4% and. . . the formulation containing the PARSOL® 1789 alone (compare FIGS. 2, 3 and 4). Further, the loss of absorbance in the **UV-A** range is reduced in a manner related to the concentration of the naphthalene dicarboxylic polymer, as can be seen in. . .

DETD

Ingredient	Formula A		
	Formula B		

			Function
hexyldecyl benzoate &			
7.50%	7.50%		emollient,
butyloctyl benzoate			solvent
isopropyl myristate			
5.00%	5.00%		co-solvent
<b>avobenzene</b>	1.00%	1.00%	<b>UV-A</b>
			<b>sunscreen</b>
octocrylene	4.00%	0.00%	<b>UV-B/UV-A</b>
			<b>sunscreen</b>
polyester of 2,6-naphthalene			
0.00%	4.00%		photostabilizer
dicarboxylic acid			
sorbitan oleate	0.20%	0.20%	particle size
			reducer
dimethicone copolyol			
0.10%	0.10%		lubricant
carbomer	0.20%	0.20%	thickener,
			<b>stabilizer</b>
acrylates/C10-30 alkyl acrylates			
0.25%	0.25%		emulsifier
crosspolymer			
deionized water	Q.S.	Q.S.	solvent,
			carrier
disodium EDTA	0.05%	0.05%	chelator
hydroxypropylmethylcellulose			
0.20%	0.20%		film former
glycerin	4.00%	4.00%	
DETD			

## Formula A

## Formula B

Average loss of <b>UV-A</b>		
26.33%	22.36%	
Average loss of <b>UV-B</b>		
25.15%	18.29%	
Average loss of SPF		
26.82%	20.35%	

## CLM What is claimed is:

1. A **sunscreen** composition having an SPF of at least 2, for topical application to **human skin** for protection against ultraviolet radiation comprising, in a cosmetically acceptable carrier, at least about 0.5% by weight of a dibenzoylmethane.
2. A composition in accordance with claim 1, wherein the molar ratio of said **stabilizing** compound having formula (I) or (II) to said dibenzoylmethane derivative is about 0.1:1 to about 10:1.
3. A composition in accordance with claim 1, wherein the molar ratio of said **stabilizing** compound having formula (I) or (II) to said dibenzoylmethane derivative is about 0.1:1 to about 0.3:1.
8. A composition in accordance with claim 7, wherein the **stabilizing** compound is included in the composition in an amount of about 1% to about 20% by weight of the composition.
9. A composition in accordance with claim 7, wherein the **stabilizing** compound is a polyester of 2,6-naphthalene dicarboxylic acid.
10. A method of filtering out ultraviolet radiation from **human**

**skin** comprising topically applying to said **skin** a composition, in a cosmetically acceptable carrier, comprising 0.5% to 5% by weight of a dibenzoylmethane derivative and a diester or polyester of a naphthalene dicarboxylic acid **stabilizing** compound selected from the group consisting of formula (I), formula (II) and mixtures thereof: ##STR8## wherein each R<sup>sup.1</sup>, same or. . .

11. A method in accordance with claim 10, wherein the molar ratio of said **stabilizing** compound having formula (I) or (II) to said dibenzoylmethane derivative is about 0.1:1 to about 10:1.

12. A method in accordance with claim 10, wherein the molar ratio of said **stabilizing** compound having formula (I) to said dibenzoylmethane derivative is about 0.1:1 to about 0.3:1.

16. A method of filtering out ultraviolet radiation from **human skin** comprising topically applying to said **skin**, in a cosmetically acceptable carrier, a diester or polyester of a naphthalene dicarboxylic acid compound selected from the group consisting. . .

17. A **sunscreen** composition including the **stabilizer** defined in claim 1, having the following composition:

Chemical Name	% W/W
Dibenzoylmethane derivative	
	1-10
<b>Stabilizer</b> of claim 1	1-15
Octocrylene	0-10
Hexyldecyl benzoate & Butyloctyl benzoate	
	0-10
UV-A/UV-B <b>sunscreen</b> #1	0-10
UV-A/UV-B <b>sunscreen</b> #2	0-10
UV-A/UV-B <b>sunscreen</b> #3	0-10
UV-A/UV-B <b>sunscreen</b> #4	0-10
Dimethicone copolyol	0-2
Isopropyl myristate	0-5
Oxybenzone	0-8
Thickener	0-2
Sorbitan oleate	0-5
Acrylate/C.sub.10-30 alkyl acrylate crosspolymer	
	0-5
Water	50-90
Carbomer	0-2
Disodium EDTA	0-2
Glycerin	0-10
Butylene glycol. . .	

18. The **sunscreen** composition of claim 17 having the following composition:

Chemical Name	% W/W
4-(1,1-dimethylethyl)-4'-methoxydibenzoylmethane	
	1-10
<b>Stabilizer</b> of claim 1	1-15
Butyloctyl salicylate	5-10
UV-A/UV-B <b>sunscreen</b>	0.5-10
Water	50-90

19. A **sunscreen** composition including the **stabilizer** defined in claim 1, having the following composition:

Chemical Name	% W/W
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Dibenzoylmethane derivative	
	1-8
Polyester of 2,6-naphthalene dicarboxylic acid	
	1-10
Octocrylene	1-5
Butyloctyl salicylate	5-10
UV-B/UV-A <b>sunscreen</b>	0.5-5
Isopropyl myristate	3-7
Acrylate/C.sub.10-30 alkyl acrylate crosspolymer	
	0.1-1
Water	50-90
Carbomer	0.1-0.5
Phenoxyethanol()methyl	0.1-1
paraben()ethylparaben()propyl-	
paraben()butylparaben	

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20. A **sunscreen** composition including the **stabilizer** defined in claim 1, having the following composition:

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Chemical Name	% W/W
Dibenzoylmethane derivative	
	1-8
<b>Stabilizer</b> of claim 1	
	1-10
Butyloctyl salicylate	
	1-10
UV-A <b>sunscreen</b>	0.5-5
Water	50-90

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